THE SEMI-WEEKLY TRIBUNE

blished every WEDNESDAY and SATU NEW-YORK WEEKLY TRIBUNE.

NEW-YORK TRIBUNE.

THE ANIMAL KINGDOM.

NINTE LECTURE ... BY PROF. AGASSIZ

sod to illustrate the structure and some points in

state of things as existed in the



bbrm-no division of the backbone-a cartilagious disal cord remaining throughout life.

There are very many peculiarities in the structure of fishes which deserve to be noticed, in order to distinguish the class of fishes from the other desses of high vertebrated animals.

It appears to be of little value, but it is one of the most striking characteristics of this class, that

ill are perfectly horizontal—all swim horizontally. There is a longitudinal diameter, running from the head to the tail, which is perfectly straight. Now you will not find that in any of the other verte-brated animals; in the reptiles, in the frogs and salamanders, in the snakes, the head rises more or salamenders, in the snakes, the head rises more or ess. Even in those which have no legs, as the makes, the head rises more or less from the horizontal position of the body. Another characteristic trait of the fish is to have no neck. The head and trunk are continuous; so that the fish cannot move its head upon the neck. The fishes move the sead and the trunk together, they form a lateral rarve more or less marked, but there is no possibility of an immediate motion of the trunk upon the neck. There is one single exception to this—said it is this fish whose skeleton you see here.



ticulations do not allow any contrable motion between the vertebræ; and that the reason why the fishes have general motion tensor move one part of their body on the next fillowing portion. No type of fishes has articulated to those of reptiles. Now, there is a fish of the Western waters, found also in the Northern lakes which has vertebræ with hollow surfaces anteriorly that I must alloie, as it is important in its bear which I must alloie, as it is important in its bear which I must alloie, as it is important in its bear anteriorly the structure of fishes to which I must alloie, as it is important in its bear anteriorly the structure of fishes to which I must alloie, as it is important in its bear anteriorly the structure of fishes to which I must alloie, as it is important in its bear anteriorly the structure of fishes to which I must alloie as it is important in its bear anteriorly the structure of fishes to which I must alloie as it is important in its bear anteriorly the structure of fishes to which I must alloie as it is important in its bear anteriorly the structure of fishes to which I must alloie as it is important in its bear anteriorly the structure of fishes to which I must alloie as it is important in its bear anteriorly the structure of fishes to which I must alloie as the general rule, because there have been observed such exceptions in organic life.—

[Applause.]

low surfaces anteriorly and posteriorly with he mispherical swellings on the articulating surfaces.

This lish is only a range.

low surfaces afteriorly and posteriorly with he mispherical swellings on the articulating surfaces. This fish is only a regment of a numerous family of which you have here some representable trains but in the su-called secondary tax of the crust of our globe, and this fiving a whose structure could be well studied, has dikeness to the reptiles that the articulations is back bone are movable by a ball and socket. This is a reptilian structure of the skeleton is an another order, and there which have not only soft rays in their fina, and those which have not only soft rays in their fina, and those which have not only soft rays in their fina, and those which had not only soft rays, but appines also rising as you see here—hard spines on the anterior of the dorsal fine and soft rays backward.

Linneus adopted another mode of classification. He fortune to see one of that class of fishes alive sping; and my first thought was to see the it moved its neck, and the first look at it will be wereterned to see one of that class of fishes alive sping; and my first thought was to see the it moved its neck, and the first look at it will be wereterned to see one of that class of fishes alive sping; and my first thought was to see the it moved its neck, and the first look at it will be used to see one of that class of fishes alive sping; and my first thought was to see this reptilian fish, with this peculiar articular of the vertebre, has the faculty of moving its of the vertebre, has the faculty of moving its flat the first look at its fishes whose ventures of the wortebre, has the faculty of moving its flat the first look at its neck, and the first look at its neck, and the first look at its neck in the middle region of the abdominal cavity. The next he called thoracie, those with ventrals on the thoracie restriction.

EW-YORK DAILY TRIBUS

VOL. VII. NO. 188. NEW-YORK, TUESDAY MORNING, NOVEMBER 16, 1847.



romnant of that irregularity re

main in the curve of the very last pair of the column. This is observed not only in this fish, but in many other fishes—in fact among all those bony fishes whose young have been observed within the egg. Now we will see that that same form of tail is seen in these bony fishes of ancient types. All ishes in the coal and below the coal, which have a bony skeleton, have such a termination of the tail: bony skeleton, have such a termination of the tail; and it is only in its secondary strata, in the intermediate epoch of a succession of saimals, that we find the tail becoming more and more regular. You see here only a slight obliquity left. This is a fish from the chalk. Among the fishes of our day we have only the sturgeon which has this cartilaginous yertebral column, and in the tribe of cartilaginous fish at large, those whose skeleton never becomes bony—the sharks and skates—we have also that irregular prolongation of the vertebral column. It is a matter of surprise even now, and of course

It is a matter of surprise even now, and of course was more surprising when first discovered, that there should be such a strict correspondence between the form of ancient fishes, which alone pos-sessed the waters of former days, and the changes which we now see going on in all the young fishes within the egg. These changes correspond pre-cisely to the order of succession of fishes in geolog-ical epochs, so much so, that more than once I have been able from this to establish the species and

be trunk are continuous; so that the hish channot move its head upon the neck. The fishes move the sead and the trunk together: they form a lateral serve more or less marked, but there is no possibility of an immediate motion of the trunk upon the neck. There is one single exception to this and it is in this fish whose skeleton you see here.

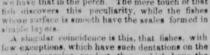
The vertebrue of the hish are connected in this manner: Just take two of the vertebrue with their opper and lower append ages. The surfaces by which the bones units here, when cut across would have such a surface show are the control of the matters which can be established, perhaps, only in a class of animals whose structure has been fully ascertained. I could show some examples among the acoptaine of the molitusca, because they have been better studied than other types. But the fact being that there is such a strict correspondence between the phenomena observed in the pondence between the phenomena observed in the product of the molitusca, because they have been better studied than other types. But the fact being that there is such a strict correspondence between the phenomena observed in the product of the molitusca, because they have been better studied than other types. But the fact being that there is such a strict correspondence between the phenomena observed in the product of the molitusca, because they have been better studied than other types. But the fact being that there is such a strict correspondence between the phenomena observed in the product of the molitusca, because they have been better studied than other types. But the fact being that there is such a strict correspondence between the phenomena observed in the product of the molitusca, because they have been better studied than other types. But the fact being that there is a full series of the such as the contaming fossil tiskes which all show in their stricture such a position of their tail—an oblique termination, not this symmetry—whose eye must be between the geological epoch to which toesi fath a tru the fact being that there is such a strict correspondence between the phenomena observed in the growth of individuals and the succession of geological epochs. I venture to maintain what I have already asserted, that all classifications in which we should not find such an agreement must be defective, and can have been constructed only on account of want of information. In Nature, when we have ascertained a rule of such an extent, we are safe in regarding it as the general rule, because there have been observed such exceptions in organic life.—

(Applause.)



this reptilian fish, with this peculiar articular of the vertebres, has the faculty of moving its affect and left,—though the neck is not divided gion. Then he named "jugulars" those whose vengood fortune to be able to demonstrate in a rather with the named production of the vertebres of the ve







Having ascertained such a connection between the hardparts of the animal, I became more and more convinced of the value of scales; and I then endeavored to ascertain to what families belonged those of which any scales had been found, and to classify the whole of fishes according to the structure of the scales. I put in one order all the fishes which have only cuameled granules on the skin, and called them Plackoids. All those which have scales covered with examel serratures I called Ganoids.

All those which had dentated, serrated a hard bone in the latest pool and latesty the mammalia. First come the fishes, and fishes only exist. Then appear the reptiles—then the birds, and lastly the mammalia and in the last epoch only one type is introduced—Man—who stands at the head of Creation.

Wisconsin—Official.

1847. White Loca Abai.

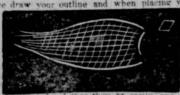
Tweel, Strong Durk
Tweel, S them Plackoids. All those which have scales covered with examel scrittures I called Ganoids. All those which had dentated scritted scales, with hard bone in the back-bone and serratures in supercular bones. I classed together as Ctenoids; and those which had simple head-bones, soft rays and soft scales, with simple outlines, I classed together and called Cycloids.

Of course, when studying the different families, I count the similar relations in the details which

and called Cycloids.

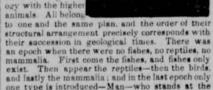
Of course, when studying the different families, I found the similar relations in the details which enabled me to find correspondent adaptations be tween the higher characteristics by which we distinguish genera and species.

Now, I was enabled to "restore" a fish from iso lated scales. So much has been said about that that I will show how possible, and indeed how easy it was for any one who took the trouble first to investigate these relations. I have shown how the different modifications of the structure of the head bones are related to the structure of the fins and the structure of the scales. I will not try your patience by going into details, but I willouly show you how easy it was, from the knowledge of these relations of the scales to other portions of the animal to give the probable and approximative outline of a fish when you have had only a single scale as a starting point. (Applause.) Let me draw a scale A great many fossil fishes have angular scales of this oblique form. That portion which is here encased by enamel is covered by a scale which proceeds so that I am allowed to draw my outlines of merely of the enameled portions without drawing the portion which is covered. I will make the scale of a size which will enable me to rive the whole thing on the board. Let that, then, be the outline of the scale. Now we know that there are usually forty, fifty or sixty scales in one longitude and series from the head to the tail. We know that outline of the scale. Now we know that there are usually forty, fifty or sixty scales in one longitudinal series from the head to the tail. We know that fishes which are about as thick as long have these scales higher than they are long; and that those which are longer have their scales longer than they are high. These are preliminary facts easily obtained by investigation. We now find a scale which is about as long as it is high. You see then what an about as long as it is high. You see then what an of by investigation. We now find a scale which is thout as long as it is high. You see then what an may lask it is to draw scales of about the same form, scripaps forty in that line, and you will have to make a fish about as high as it is long. You at



scales you will ned that they fit easily, and you draw them with as much precision as if you had the living model before you. But you have now got a fish without fins! The question is where are got a tisk without fins! The question is where are you to put the fins? And, again what sort of a head are you to put to such a body? A laugh.) A fish which has a fiat ovate form like that will be a fish of not very rapid motion, and we know that all fishes not possessed of powers of rapid motion have rather clongated dorsal and anal fin, and that the caudal fin is not forked. Those that awim fast have the tail forked, and these fins act as a paddle. The fishes which have a broad, flat body, are not voracious; therefore they cannot have a prolonged snoot. They will have a short round head, and so in that way you terminate your drawing. (Applause.)





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| Lt. Gov. Fish 3109 Dayton 2561 |
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| Controller Fillmore 3119 Hunserford 2531 |
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County Returns - Official. Cattarangus gives 35 majority for Fish, 104 for Fillmore, and elects M. H. Johnson (Loco) over Crooker by 7 majority. James G. Johnson, Whig. Suffalk gives 139 Loco on the State Ticket, 248 on Senator, and eightess on Assembly: Edwin Rose (Whig) 216; Wm. Sidney Smith (Loco) 234.

Rose (Whig 216; Wm. Samey Samen (Loco) 234.

Scholcal Operation — An unprecedented operation in surgery was performed yesterday on a young lady living near bis city, as we learn, by Dr. Robert Thompson of this city, and Dr. M. Z. Kreider of Lancaster, assisted by several other medical gradience. The operation consisted in the removal of the liver, in a diseased state, which upon weight amounted to 29; pounds, independent of material lost during the apperation. We learn that up to this time the lady is doing well, but lears are doubtless cubic takes for the living well, but lears are doubtless cubic takes for the living well but lears are doubtless cubic takes for the living well but lears are doubtless cubic takes of or the living but fears are do: Obio (Columbus) State Journal. What pext?

officers in relation to the actions of Contreras and

renewed the declaration. So far he says he has acted up to his declaration. He had not nor would he in any manner take part in the unfortunate party differences by which his countrymon were divided.

From his retreat at Tuiancingo Gen. Paredes had previously published a long address to his countrymen. It would fill exversi columns of our paper, and is admirably written. He tells of the pain with which he heard in Europe of the successive disasters of his country. After the battle of Cerro Gordo he determined to return home and frankly ofer his services to the nation. He wrote home to the Government to that effect from Paris, and shortly after set out on his voyage. He describes his entry at Vera Cruz. He knew the boat on which he was a passingler carried letters to the Governor of Vera Cruz to arrest him.

Accordingly he landed first of all, and changing his dress, at once made his scape, before Col. Wilson could take measures to arrest him, which he did the moment as unworthy Mexican who recognized him disclosed the fact. He had not been gone five minutes before the gates were sout; evally pursued him, but he fled before them, taking the road of Soledad, and after infinite dangers from "evil doers who inundated the country." (guerni lerss) he reached Cordova and Orizabs, and thence to Palmar, and at once communicated his arrival to the Government. The Government refused his profered services, and directed the harshest measures againt blun. How Santa Anna is handled in this address we have not room to tell today.

Gen. Valencia has demanded a court martial upon his

How Santa Arna is bandled in this address we have not room to tell to-day.

Gen Valencia has demanded a court martial upon his conduct in the battles on the libth and 20th September. The Secretary replies that his request will be compiled with, and orders him to awaits Queretaro farther orders. From the general tenor of addresses from all parts of the country, we think it apparent that the rule of Pens y Pens is cheerfully sequiesced in. The Recutous soldiery and some military leaders will endeavor to oppose him, and there are in some States signs of insubordination, but not directed particularly against Pens y Pens. His administration, however, is to be temporary at the best unless Congress should meet and elect him permanently.

The Montor Republicane has several very interesting letters from Queretaro. We have not room for them all but give the latest which is much like Washington

letters from Queretaro. We have not room for them all but give the latest which is much like Washington goestly:

Queretaro, Oct 23, 1847.

There has been siready a competent number of Deputies here, and although some of them, notwithstanding the circumstances, have gone to Guanajanto they will return to-day, and on Monday the 25th, work will be commenced. The Government is slow in its operations which is to be regretted. Sr. Rose has been unable to attend to business for two days, having been till with a sovere colle, so that the affairs of his department have been delayed.

It seems that Sr. Mora y Villamii has assumed the Portfulto of War and Martner butthis genitiman is decided for Peace, (the italies are our own.)

The Deputies are much divided in regard to the election of a Provisional President but I have just learned that the Moderador will this day hold a caucus to concentrate their vote. Their candidates are G. Pedraza, Herrers, Pena y Pena and Anaya. The Blobs of preserday, as you will see, declares itself for the second named gentleman, by asying that it is best to select a man who has once before been able to command a majority of the votes of the States for the Constitutional Presidency. This idea appears to me a good one.

The candidates of the Pares are Meser. Almonte and Campildo, the President of the Constitutional Presidency. This idea spears to me that the other party will concentrate their vote upon Almonte, and then they will not fall to succeed.

Other lecters asy that the city is full of needy adventurers and half starved officers solicting pay and employment. The number of officers in the town is regarded as a serious obstruction to the wise deliberations of Congress. One correspondent says that there is exarcely a shoreer parties of Santa Anaa in the town, but schemers and contractors who have an interest in his reinstatement. Among promisent men has appear to have no friends.

La Rance of the Pith officers solicting pay and employment of the decided and the second of the contractors w

Santa Anna.

We copy from the Picayane Santa Anna's last epistle to his faithful few. It is written with his usual felicity. In truth, had the Napoleon of the West fought with one-half the ability he writes, "Flodden might have been Bannockburn," or, in plainer prose, Buena Vista, Churubasco would have been the graves of our soldiers. Fortunately for us and our countrymen it has been decreed

. We invoke attention to the sentence in italics. may mean something. Perhaps at this late hour

FIVE DOLLARS A YEAR.

to Major General Pillow. We are auxious to w what the Senate of the United States thinks

NOTICES.

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The stockholders of the New-York and Eric Railroad Company are hereby notified that an instalment of ten Company are hereby notified that an instalment of ten Company are hereby notified that an instalment of ten Company are hereby notified that an instalment of ten Company are hereby notified that an instalment of ten Company are hereby notified that an instalment of ten Company are hereby notified that an instalment of ten Company are hereby notified that an instalment of ten Company are hereby notified that an instalment of ten Company are hereby notified that an instalment of ten Company in the Company are hereby notified to receive from the company in the company is not to the business of Life Insurance, the Company and the payment of the make insurance on the Ifalian to the payment of the make insurance on the Ifalian to the payment of the make insurance on the Ifalian to the payment of the make insurance on the Ifalian to the payment of the make insurance on the Ifalian to the payment of the payment of the payment o

NEW-YORK AND ERIE RAILROAD CO.
The stockholders of the New-York and Eric Railroad
Company are hereby notified that an instalment of ten
dollars per diare on all shares on which the payments
hisratofore made do not exceed fifty five dollars, is required
hisratofore made do not exceed fifty five dollars, is required
to be paid at the office of the Company. 40 Wall at on or
before the seventeenth (17th) day of November next.
By order of the Board of the Directors.
olf tN17 NATHANIEL MARSH, Secretary.

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hear's, 33 Broadway; at Deiling's Park-row, and Sil Broadway.

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Notes and Beekman sts. Two heathermen wanted, all live NOTICE.—The unual election of Directors of the Howard insurance Company will take place on Men day, 6th December act, at the office of the Company of the Wallet commencing at It of clock and clocking at It of clock and clocking at It of the Company of